

Amendments to the Claims:

Please amend the claims as instructed in the marked-up version of the Listing of Claims presented below. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A latch assembly, comprising:
- a ratchet having latched and unlatched positions;
 - a pawl releasably engagable with the ratchet to releasably retain the ratchet in its latched position;
 - a housing coupled to the ratchet and pawl;
 - a first lever at least partially located in the housing and movable to two different positions with respect to the pawl, the first lever having a pivot point about which the first lever pivots in both of the two different positions, the pivot point having substantially the same location with respect to the first lever in both of the two different positions, the first lever pivotable about the pivot point in a first of the two different positions of the first lever to move the pawl and to disengage the ratchet, the first lever incapable of moving the pawl sufficiently to disengage the ratchet in a second of the two different positions of the first lever;
 - a second lever at least partially located in the housing and coupled to the first lever at the pivot point; and
 - a third lever at least partially located in the housing and coupled to the second lever, the third lever movable to move the first lever between the two different positions.
2. (Currently Amended) The latch assembly as claimed in claim 1, wherein:
- the first lever is movable to additional positions with respect to the pawl in which the ~~first lever is pivotable about the pivot point; and~~
 - the pivot point is in substantially the same location with respect to the first lever in the two different positions and in at least some of the additional positions.

3. (Currently Amended) The latch assembly as claimed in claim 1, wherein the first lever is movable to additional positions with respect to the pawl, the first lever pivotable to move the pawl and to disengage the ratchet in at least some of the additional positions.

4. (Currently Amended) The latch assembly as claimed in claim 3, wherein:
the first lever is pivotable about the pivot point in at least some of the additional positions; and
the pivot point is in substantially the same location with respect to the first lever in the two different positions and in at least some of the additional positions.

5. (Currently Amended) The latch assembly as claimed in claim 1, wherein the first lever transmits no motive force to the pawl in the second of the two different positions of the first lever.

6. (Currently Amended) The latch assembly as claimed in claim 1, wherein the first lever is translatable to the two different positions with respect to the pawl.

7. (Currently Amended) The latch assembly as claimed in claim 1, wherein the first lever is rotatable to the two different positions with respect to the pawl.

8. (Currently Amended) The latch assembly as claimed in claim 1, wherein the first lever is movable to the two different positions with respect to the pawl by a combination of rotation and translation of the first lever.

9. (Withdrawn)

10. (Currently Amended) The latch assembly as claimed in claim 1, wherein the third lever further comprising is a rotatable element coupled to the second lever, the first lever movable to the two different positions by rotation of the rotatable element.

11. (Original) The latch assembly as claimed in claim 10, wherein the rotatable element is disc-shaped.

12. (Currently Amended) The latch assembly as claimed in claim 10, wherein the second lever is directly coupled to the rotatable element.

13. (Currently Amended) The latch assembly as claimed in claim 10, wherein the second lever is a link coupled between ~~to~~ the rotatable element ~~by a link~~ and the first lever.

14. (Currently Amended) The latch assembly as claimed in claim 10, wherein the first lever is coupled to the rotatable element via a pin and aperture connection permitting relative rotation between the rotatable element and the first lever.

15. (Currently Amended) The latch assembly as claimed in claim 10, wherein the third lever is movable by camming action against the second lever responsive to rotation of the ~~rotatable element~~ third lever.

16. (Currently Amended) The latch assembly as claimed in claim 10, ~~further comprising~~ wherein the second and third levers at least partially define an over-center device coupled to the first lever, the first lever movable by actuation of the over-center device.

17. (Currently Amended) A method of operating a latch assembly, comprising:
providing a pawl releasably engaged with a ratchet;
providing first, second, and third levers, the first lever coupled to the second lever
about a pivot point substantially fixed with respect to the first lever, the second
lever coupled to the third lever;
pivoting a the first lever through a first path about a the pivot point ~~substantially fixed~~
~~with respect to the lever~~, the first lever incapable of transferring sufficient
motive force to release the ratchet by pivoting through the first path;
actuating the third lever;
moving the first lever ~~to move~~ and the pivot point to a different location with respect
to the pawl via actuation of the third lever;
pivoting the first lever through a second path about the pivot point;
transferring motive force from the first lever to the pawl by pivoting the first lever
through the second path; and
releasing the pawl from engagement with the ratchet by transferring motive force
from the first lever to the pawl.

18. (Currently Amended) The method as claimed in claim 17, wherein moving the first lever includes moving the pivot through at least one other location in which the first lever is pivotable about the pivot point.

19. (Currently Amended) The method as claimed in claim 18, wherein the first lever is pivotable in the at least one other location to transfer motive force from the first lever to the pawl and to release the pawl.

20. (Currently Amended) The method as claimed in claim 17, wherein pivoting the first lever through the second path occurs during movement of the first lever to move the pivot point to the different location with respect to the pawl.

21. (Currently Amended) The method as claimed in claim 17, wherein the first lever transmits no motive force to release the ratchet when the first lever is pivoted through the first path.

22. (Currently Amended) The method as claimed in claim 17, wherein moving the first lever includes rotating the first lever with respect to the pawl.

23. (Currently Amended) The method as claimed in claim 17, wherein moving the first lever includes translating the first lever with respect to the pawl.

24. (Currently Amended) The method as claimed in claim 17, wherein moving the first lever includes translating and rotating the first lever with respect to the pawl.

25. (Withdrawn)

26. (Currently Amended) The method as claimed in claim 17, further comprising moving ~~an element~~ the second lever coupled to the first lever to move the first lever.

27. (Currently Amended) The method as claimed in claim 26, wherein the ~~element~~ second lever is at least part of an over-center device coupled to the first lever, the method further comprising actuating the over-center device from a first state, across a center position of the over-center device, and to a second state to move the first lever.

28. (Currently Amended) The method as claimed in claim 26, wherein:
the ~~element~~ second lever is rotatable with respect to the first lever; and
the first lever is moved responsive to rotation of the second lever ~~element~~.

29. (Currently Amended) A method of operating a latch assembly having a ratchet releasably engagable with a pawl, the method comprising:

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pivoting a lever about a pivot point substantially fixed with respect to the lever and located in a first position with respect to a body of the latch apparatus, the lever incapable of exerting sufficient motive force to release the ratchet from engagement with the pawl when the pivot point is located in the first position; moving the lever ~~to move~~ and the pivot point away from the first position with respect to the body of the latch apparatus while the lever remains at least partially actuated;

moving the lever ~~to move~~ and the pivot point to a second position with respect to the body of the latch apparatus while the lever remains at least partially actuated; and

~~pivoting the lever about the pivot point in the second position~~;

moving the pawl with the lever to release the ratchet from engagement with the pawl by after moving the lever ~~to move~~ and the pivot point ~~away from~~ toward the ~~first~~ second position.

30. (Original) The method as claimed in claim 29, wherein moving the pawl occurs after the pivot point of the lever is moved to the second position.

31. (Currently Amended) The method as claimed in claim 29, wherein moving the pawl occurs while the lever is moved and while the lever is remains pivoted.

32. (Original) The method as claimed in claim 29, wherein moving the lever to move the pivot point to the second position includes translating the lever with respect to the pawl.

33. (Currently Amended) The method as claimed in claim 29, wherein ~~the~~ moving the lever to move the pivot point to the second position includes rotating the lever with respect to the pawl.

34. (Original) The method as claimed in claim 29, wherein moving the lever to move the pivot point to the second position includes translating and rotating the lever with respect to the pawl.

35. (Original) The method as claimed in claim 29, further comprising:
providing an actuator coupled to the lever; and
actuating the actuator to move the lever.

36. (Original) The method as claimed in claim 29, further comprising an over-center device coupled to the lever, the over-center device movable between two stable positions corresponding to the first and second positions of the pivot point.

37. – 55. (Withdrawn)

56. (Currently Amended) A latch assembly, comprising:
a pawl having:
 an unlatched position; and
 a latched position;
a lever movable with respect to the pawl;
a rotatable member coupled to the lever and mounted for rotation about an axis,
wherein
 the lever is movable by rotation of the rotatable member coupled thereto, the
 rotatable member rotatable between:
 a first position in which the lever is actuatable to move the pawl to the
 unlatched position; and
 a second position in which actuation of the lever is incapable of generating
 movement of the pawl to the unlatched position, movement of the
 rotatable member from the second position to the first position during
 actuation of the lever generating movement of the pawl.

57. (Original) The latch assembly as claimed in claim 56, wherein the lever is movable between an unlocked position and a locked position corresponding to the first and second positions of the rotatable member, respectively, the lever pivotable about substantially the same location with respect to the lever in the unlocked and locked positions.

58. (Currently Amended) The latch assembly as claimed in claim 56, wherein:
the rotatable member is a first rotatable member; and
the lever is coupled to the first rotatable member by a second rotatable member
coupled to the lever and to the first rotatable member.

59. (Original) The latch assembly as claimed in claim 58, wherein:
first and second connections are defined between the lever and the second rotatable
member and between the second rotatable member and the first rotatable
member, respectively; and
at least one of the first and second connections is a lost-motion connection.

60. (Original) The latch assembly as claimed in claim 56, wherein the rotatable member is part of an over-center device coupled to the lever.

61. (Original) The latch assembly as claimed in claim 56, wherein the lever is rotatably coupled to the rotatable member.

62. – 63. (Withdrawn)

64. (Original) The latch assembly as claimed in claim 56, wherein:
the lever is coupled to a first end of the rotatable member; and
the rotatable member is rotatable about a second end opposite the first end.

~~65. – (Original) The latch assembly as claimed in claim 56, wherein the first position of the~~
rotatable member is one of a range of positions of the rotatable member in which the lever is
actuatable to move the pawl to the unlatched position.

66. (Original) The latch assembly as claimed in claim 56, wherein the second position of the rotatable member is one of a range of positions of the rotatable member in which the lever is incapable of generating movement of the pawl to the unlatched position.

67. (Original) The latch assembly as claimed in claim 56, wherein the lever is incapable of moving the pawl in the second position of the rotatable member.

68. (Currently Amended) A method of operating a latch, comprising:
moving a pawl to a latched position;
providing a first, second, and third levers, the first lever in a having first and second positions with respect to the pawl, in which actuation of the first lever in the first position about a pivot is being incapable of moving the pawl to an unlatched position;
initiating rotation of ~~a rotatable member~~ the third lever about an axis thereof, the ~~rotatable member~~ third lever coupled to the first lever via the second lever;
rotating the ~~rotatable member~~ third lever about the axis toward an unlocked position;
moving the first lever and the pivot from the first position to a second position by rotation of the ~~rotatable member~~ third lever toward the unlocked position;
actuating the first lever about the pivot after initiating rotation of the ~~rotatable member~~ third lever; and
moving the pawl to the unlatched position by actuation of the first lever.

69. (Currently Canceled)

70. (Currently Amended) The method as claimed in claim ~~69~~ 68, wherein ~~the lever is pivotable about the pivot point in the first and second positions of the lever, the pivot point is~~ located in substantially the same location with respect to the first lever in the first and second positions of the first lever.

71. (Currently Amended) The method as claimed in claim 68, wherein the first lever is actuated and the pawl is moved to the unlatched position after the first lever has been moved to the second position.

72. (Currently Amended) The method as claimed in claim 68, further comprising moving the pawl to the unlatched position while moving the first lever from the first position to the second position and while the first lever is at least partially actuated.

73. (Currently Amended) The method as claimed in claim 68, wherein the third lever ~~rotatable member~~ is pivotably coupled to the second lever.

74. (Currently Amended) The method as claimed in claim 73, wherein the ~~rotatable member~~ third lever is ~~pivotably~~ coupled to the second lever via a lost-motion connection ~~second rotatable member~~.

75. (Currently Amended) The method as claimed in claim 68, wherein ~~the rotatable member~~ the first lever is coupled to the second lever at a first connection and the second lever is coupled to the third lever at a second connection, at least one of the first and second connections is coupled to the lever by a lost-motion connection.

76. (Currently Amended) The method as claimed in claim 68, wherein moving the first lever includes rotating the first lever from the first position to the second position.

77. (Currently Amended) The method as claimed in claim 76, wherein moving the first lever also includes rotating the first lever with respect to the third lever ~~rotating member~~.

78. (Currently Amended) The method as claimed in claim 76, wherein moving the first lever also includes rotating the first lever with respect to the pawl.

79. (Withdrawn)

80. (Currently Amended) The method as claimed in claim 68, wherein moving the pawl includes pushing the pawl with the first lever.

81. (Currently Amended) A latch assembly, comprising:
- a pawl movable between a latched position and an unlatched position;
 - a lever having
 - at least one unlocked position in which the lever is actuatable to move the pawl to the unlatched position; and
 - at least one locked position in which the lever is incapable of moving the pawl to the unlatched position;
 - an over-center device coupled to the lever at a first pivot and moveable about a second pivot, the over-center device having
 - a first stable position in which the lever is positioned in the unlocked position ~~moved~~ by the over-center device with respect to the pawl ~~to the unlocked position~~; and
 - a second stable position in which the lever is positioned in the locked position ~~moved~~ by the over-center device with respect to the pawl ~~to the locked position~~; and
 - at least one unstable position located between the first and second stable positions, the at least one unstable position located along a line extending through the first and second pivots when the over-center device is in either stable position, wherein actuation of the lever urges the over-center device away from the unstable position and toward either of the first and second stable positions.

82. (Original) The latch assembly as claimed in claim 81, further comprising a ratchet releasably engagable with the pawl and having latched and unlatched positions corresponding to the latched and unlatched positions of the pawl.

83. (Currently Cancelled)

84. (Currently Amended) The latch assembly as claimed in claim ~~83~~ 82, wherein the first pivot point is located in substantially the same location with respect to the lever in at least one unlocked position of the lever and in at least one locked position of the lever.

85. (Currently Amended) The latch assembly as claimed in claim 81, wherein the over-center device includes a first element and a second element pivotably coupled to one another at a ~~first~~ third pivot point, the first element also coupled to the lever.

86. (Currently Amended) The latch assembly as claimed in claim 85, wherein the first element is pivotably coupled to the lever at ~~a second~~ the first pivot point.

87. (Currently Amended) The latch assembly as claimed in claim 86, wherein:
the second element ~~has a third pivot point about which the second element is~~
pivotable about the second pivot; ~~the third pivot point located a distance from the first pivot~~
~~point~~; and

K, the ~~first and second elements have~~ first and second stable positions and ~~an~~ the at least
one unstable intermediate center position is defined by different pivotal positions of the first
element with respect to the second element, ~~the center position further defined by a line~~
~~extending through the second and third pivot points.~~

88. (Currently Amended) The latch assembly as claimed in claim 81 87, wherein the first and second stable positions are on opposite sides of the line.

89. (Original) The latch assembly as claimed in claim 85, wherein the first and second elements are pivotably coupled together by a lost-motion connection.

90. (Currently Amended) The latch assembly as claimed in claim 85, wherein:
the second element ~~has a third pivot point about which the second element is~~
pivotable about the second pivot; ~~and, the third pivot point located a distance from the first~~
~~pivot point~~;

the latch assembly further comprising an angle between ~~a first~~ the line extending
through the first and second pivot points and a second line extending through the first and
third pivot points, ~~the angle having different sizes defined by different relative positions of~~
the first element with respect to the second element, the angle limited to acute angle sizes.

91. (Withdrawn)

92. (Original) The latch assembly as claimed in claim 85, wherein the ~~lever~~ second element is movable to cam against the first element ~~in the unlocked position of the lever.~~

93. (Currently Cancelled)

94. (Original) The latch assembly as claimed in claim 85, wherein at least one of the first and second elements has a rotational range limited by at least one stop in at least one of the locked and unlocked positions of the over-center device.

95. (Original) The latch assembly as claimed in claim 85, wherein the first and second elements are rotatable through respective ranges of positions limited only by a range of movement of the lever.

96. (Withdrawn)

97. (Currently Amended) The latch assembly as claimed in claim 81, wherein the over-center device includes first and second elements movable with respect to one another, the second element rotatable about a second pivot point, the first element coupled to the lever and positioned to ride upon a surface of the ~~first~~ second element.

98. (Currently Amended) A method of operating a latch assembly, comprising:
providing a lever coupled to a pawl and movable with respect to the pawl, the lever having a first position with respect to the pawl in which actuation of the lever is incapable of moving the pawl sufficiently to unlatch the latch assembly;

moving at least a portion of an over-center device about a first pivot coupled to the lever from a first stable position toward a center position, the over-center device coupled to the lever at a second pivot, the center position located along a line extending through the first and second pivots;

moving the at least a portion of the over-center device past the center position toward a second stable position;

moving the lever from the first position with respect to the pawl to a second position with respect to the pawl responsive to movement of the at least a portion of the over-center device;

actuating the lever in the second position; and

moving the pawl to unlatch the latch assembly responsive to actuation of the lever in the second position.

99. (Original) The method as claimed in claim 98, wherein the lever is moved from the first position with respect to the pawl to the second position with respect to the pawl during movement of the over-center device from the first stable position toward the center position.

100. (Original) The method as claimed in claim 98, wherein the lever is moved from the first position with respect to the pawl to the second position with respect to the pawl during movement of the over-center device past the center position toward the second stable position.

101. (Original) The method as claimed in claim 98, wherein the over-center device includes first and second elements rotatably coupled to one another, the second element also coupled to the lever, the method further comprising:

rotating the first element of the over-center device;

rotating the second element of the over-center device responsive to rotation of the first element; and

moving the lever responsive to rotating the second element of the over-center device coupled to the lever.

102. (Original) The method as claimed in claim 101, further comprising stopping rotation of at least one of the first and second elements of the over-center device by a stop, the over-center device in the first stable position when the at least one of the first and second elements is stopped by the stop.

103. (Original) The method as claimed in claim 101, further comprising stopping rotation of at least one of the first and second elements of the over-center device by a stop, the over-center device in the second stable position when the at least one of the first and second elements is stopped by the stop.

104. (Withdrawn)

105. (Original) The method as claimed in claim 98, wherein the over-center device includes a first element movably coupled to a second element, the method further comprising riding the first element upon a surface of the second element as the second element rotates about an axis.

106. (Currently Amended) The method as claimed in claim 98, wherein actuating the lever includes pivoting the lever about a the second pivot point.

107. (Currently Amended) The method as claimed in claim 106, wherein moving the lever includes moving the second pivot point with respect to the pawl.

108. (Currently Amended) The method as claimed in claim 106, wherein the second pivot point is located in substantially the same position with respect to the lever in the first and second positions of the lever.

109. (Original) The method as claimed in claim 98, wherein the over-center device is biased toward at least one of the first and second stable positions and away from the center position upon movement of the over-center device to a corresponding side of the center position.

110. (Original) The method as claimed in claim 98, wherein:
the over-center device has a first element and a second element pivotably coupled to the first element and coupled to the lever;
the first element has a range of pivot positions with respect to the second element, the range of pivot positions including the center position; and
moving the over-center device includes pivoting one of the first and second elements with respect to the other of the first and second elements.

111. (Currently Amended) The method as claimed in claim 98, wherein:
the over-center device includes a first element pivotably coupled at a first third pivot point to a second element and pivotable about ~~a second~~ the first pivot point;
the lever is pivotably coupled to the second element at ~~a third~~ the second pivot point;
the method further comprising moving the second pivot point across a line passing through the first and ~~third pivot points~~ second pivots, the line defining the center position of the over-center device.

112. (Currently Amended) The method as claimed in claim 98, wherein moving the lever includes camming at least one of pushing and pulling the over-center device against the lever.

113. (Original) The method as claimed in claim 98, wherein moving the lever includes pivoting the lever with respect to the over-center device.